Claims:

1. The addition of inflatable and /or compressible and/or controllable lining to stents (medical or non medical) to function as a valve for the flow of fluids or gases through.
    a. This includes any form of stents including but not limited to metallic, plastic, totally inflatable stents or otherwise of medical or non medical use.
    b. This includes all shapes of stent designs including but not limited to ring, tubular, cylindrical, cone, pentagonal ...etc.
    c. This includes all shapes and materials of linings used for the same purpose including but not limited to Gortex, Teflon, PTFE.
2. The addition of fixed lining narrowing excluding animal native or treated valves to stents (medical or non medical) to function as a valve for the flow of fluids or gases through.
    a. This includes any form of stents including but not limited to metallic, plastic, totally inflatable stents or otherwise of medical or non medical use.
    b. This includes all shapes of stent designs including but not limited to ring, tubular, cylindrical, cone, pentagonal ...etc.
    c. This includes all shapes and materials of linings used for the same purpose including but not limited to Gortex, Teflon, PTFE.
3. Stentless designs used for the same purpose (to function as a valve for the flow of fluids or gases through a vessel). The implantation techniques includes but is not limited to interventional, surgical or endoscopic).
4. The use of this technique includes but is not limited to inside the blood vessels, airways, urinary, gastrointestinal passages or industrial pipes.
5. This includes but is not limited to the design suggested above for this purpose.
6. The designs that will achieve the valve function for the flow inside the vessel in one or more than one direction are included as well.

PCT/EG2003/000010

AMENDED CLAIMS

received by the International Bureau on 08 December 2004 (08.12.04): original claims 1 to 6 have been replaced by amended claims 1 to16.

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Subject :
International application number PCT/EG 2003/000010

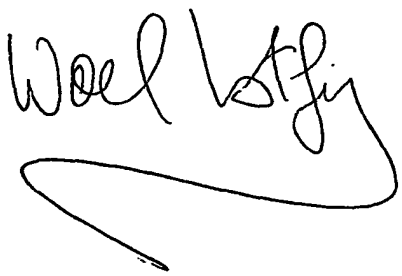
Claims :

There were originally 6 claims filed, claims 3, 4, 5, 6 are cancelled;
Claim 1 and 2 are unchanged, claims 7 to 13 are added.

7. The ball for the valve mechanism is inflatable by CO2, air, flowable gelatinous material, metallic powder, radioopaque fluid or hardening agent.
8. The ball for the valve mechanism comprising a check valve for inflation or deflation.
9. The inflatable ball wherein the check valve for inflation is of a breakaway design to permit separation from the means for injecting.
10. The ball for the valve mechanism where the one way valve comprises a plug of an elastomer having a slit through which closes upon application of pressure within the tubing.
11. The ball for the valve mechanism where the ball is linked to the stent by a ribbon of biologically inert material to allow limited mobility of the ball and/or inflation or deflation of the ball alone or with the stent.
12. The ball for the valve mechanism where the ball is separate from the stent.
13. The ball for the valve mechanism that is modifiable and retrievable after implantation to allow further sizing as needed.
14. The lining of claim 1 and 2 that is fabricated solely or at least partly from a semipermeable membrane, and wherein the hollow wall has disposed hydrophilic material capable of absorbing a liquid to thereby increase the volume of said material. The final shape may be appropriate or modifiable by ballooning from the lumen or by inflation.

15. The lining of claim 14 that is fabricated from a semipermeable membrane, and wherein the hollow wall has disposed hydrophilic material that is a gel.

16. The use of ultrashort stents (whether fixed, balloonable or inflatable) i.e. rings to support the valve mechanism instead of usual stents.



AMENDED SHEET (ARTICLE 19)